REMARKS

Claims 1-4 are pending and stand rejected. Without prejudice or disclaimer, claim 1 has been amended to further specify the claimed subject matter. Support for this amendment can be found in the specification and claims as-filed, *see, e.g.*, paragraphs [0022] and [0023] of the specification as-filed. Accordingly, no new matter has been added.

The Examiner rejected claims 1-4 under 35 U.S.C. § 103(a) as allegedly "being unpatentable over" U.S. Patent No. 5,804,148 ("Kanesaka") in view of U.S. Patent No. 5,108,716 ("Nishizawa"). Office Action at 2. Applicant respectfully traverses the rejection of claims 1-4 over Kanesaka in view of Nishizawa, for at least the following reasons.

The Examiner has not established a prima facie showing of obviousness. Several basic factual inquires must be made in order to determine whether the claims of a patent application are obvious under 35 U.S.C. § 103. These factual inquiries, set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), require the Examiner to:

> (1) Determine the scope and content of the prior art;
> (2) Ascertain the differences between the prior art and the claims in issue;
> (3) Resolve the level of ordinary skill in the pertinent art; and
> (4) Evaluate evidence of secondary considerations.

The obviousness or non-obviousness of the claimed invention is then evaluated in view of the results of these inquiries. *Graham*, 383 U.S. at 17-18, 148 USPQ 467; *see also KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1734 (2007).

Thus, in order to satisfy the initial burden of establishing a *prima facie* case of obviousness, the Examiner first must show that the prior art references teach or suggest all the claim limitations. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). *See also* M.P.E.P. § 2143. The Examiner also must show that there is some suggestion or motivation, either in the references or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references. *See In re Rouffet*, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998). *See also* M.P.E.P. § 2143. The Supreme Court, in the recent *KSR* decision, recognized that a showing of "teaching, suggestion, or motivation" could provide helpful insight in determining whether the claimed subject matter is obvious under Section 103(a). *KSR,* 127 S. Ct. at 1741.

In addition, the Supreme Court mandates that "[t]o facilitate review, this analysis [of whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue] should be made explicit." *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")).

Following the *KSR* decision, the Office issued a memorandum to its technology center directors on May 3, 2007, indicating that "**in formulating a rejection under 35 U.S.C. § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would**

have combined the prior art elements in the manner claimed." (Emphasis in original).

Applicant respectfully submits that the Examiner has not met at least this criteria in the present case, i.e., the Examiner has not shown how or why a person of ordinary skill in the art would have combine Kanesaka and Nishizawa to arrive at the presently claimed invention.

The Examiner admits that "Kanesaka fails to show a three-way catalyst wherein a noble metal is loaded higher on a high loading position disposed on an upstream part of the three-way catalyst than on an ordinary portion of the three-way catalyst." Office Action at 2. The Examiner relies on Nishizawa to cure the deficiencies of Kanesaka, contending that "Nishizawa teaches a metal carrier for a catalytic converter (fig. 1) wherein a three-way catalyst comprised of a noble metal loaded higher on a high loading portion disposed on an upstream part of the three-way catalyst/metal than on an ordinary portion of the three-way catalyst in order to promote catalytic activation at low temperatures (abstract) and achieve a large cost reduction (col. 3, lines 2-12)." Office Action at 2. Thus the Examiner concludes that it "would have been obvious to one having ordinary skill in the art at the time the invention was made to include a three-way catalyst wherein a noble metal is loaded higher on a high loading portion disposed on an upstream part of the three-way catalyst than on an ordinary portion of the three-way

catalyst in Nishizawa's apparatus, as taught by [Kanesaka][1], in order to promote catalytic activation at low temperatures and achieve a large cost reduction." *Id.* at 3.

Applicant respectfully asserts that the Examiner has not identified a reason why one of ordinary skill in the art looking at the cited references would have modified them to arrive at the presently claimed invention. Moreover, one of ordinary skill in the art would not expect the resultant multiplier effect demonstrated by the presently claimed invention.

Kanesaka discloses, in Figure 1, an HC adsorbent (3) and an oxidizing catalyst (4), and that a three-way catalyst (5) is disposed at an upstream side of the HC adsorbent (3). However, the HC adsorbent (3) comprises zeolite, and it is different from an HC adsorption-purifying catalyst comprising an HC adsorbent layer on a substrate and an oxidizing catalyst layer on the HC adsorbent layer of the presently claimed invention. *See, e.g.*, claim 1 as-amended.

In describing the embodiment of Figure 5, Kanesaka discloses an HC adsorbent (22) on a substrate. *See* Kanesaka at col. 8, line 58 to col. 9, line 10. However, in the embodiment of Figure 5, Kanesaka merely discloses that an electrical heating substrate (6) is arranged upstream of the HC adsorbent (22).

Furthermore, in Nishizawa, there is no description about an HC adsorption-purifying catalyst. Thus, one of ordinary skill in the art would not have been motivated to combine and modify the references to arrive at the presently claimed invention.

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[1] The Office Action dated April 19, 2007 said "as taught by Masaaki et al." Applicant's representative wishes to thank the Examiner for her time on the telephone on July 12, 2007, wherein the Examiner clarified that the references to "Masaaki et al." in the Office Action were typographical errors.

Moreover, one of ordinary skill in the art would not have expected the "multiplier effect" obtained by the claimed apparatus. One of ordinary skill in the art would have expected only a cumulative effect of the upstream and downstream catalysts. However, as shown in Figure 3 of the present specification, which compares Experimental Example No. 1 (EE1) and Comparative Example No. 1 (CE1), the apparatus of the present invention does not exhibit merely the sum of both catalysts' effect, but rather, exhibits a multiplier effect thereof.

Figure 3 shows that the difference (ΔA) of HC amount in an outlet gas of HC adsorption-purifying catalyst is larger than the difference (ΔB) of HC amount in an inlet gas of HC adsorption-purifying catalyst ($\Delta B < \Delta A$). The difference (ΔB) of HC amount in an inlet gas of HC adsorption-purifying catalyst indicates the effect due to a three-way catalyst in which a noble metal is loaded on an upstream side in high concentration. However, the difference (ΔA) of HC amount in an outlet gas of HC adsorption-purifying catalyst indicates the effect due to a three-way catalyst in which a noble metal is loaded on an upstream side in high concentration, and the effect due to HC adsorption-purifying catalyst disposed on a downstream side. Since EE1 and CE1 use the same HC adsorption-purifying catalyst disposed on a downstream side, it is apparent that the present invention exhibits a multiplier effect due to the position of the second adsorption-purifying catalyst.

Thus, not only would one of ordinary skill in the art not be motivated to modify and combine Kanesaka and Nishizawa, one of ordinary skill in the art would not have expected such a multiplier effect, as demonstrated by the presently claimed invention. Accordingly, the Examiner has not established a prima facie case of obviousness.

Since the Examiner has not established a prima facie case of obviousness with respect to independent claim 1, she also has not established a prima facie case with respect to the dependent claims, further rendering this rejection improper.

Accordingly, Applicant respectfully requests the withdrawal of the § 103(a) rejection.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration of this application, and the timely allowance of the pending claims.

If the Examiner believes a telephone conference could be useful in resolving any of the outstanding issues, he is respectfully urged to contact Applicant's undersigned counsel at 202-408-4368.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: August 16, 2007

By: _____
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